RESOURCES

Advertising Brochure
       Make Every Move Count (SMARTPath Service Insert)   (BSSM 9408E/PID 645940818)

AIM Bulletin
       #195   12/31/94

Communique' Bulletins
       #113   3/8/94
       #138   5/16/94
       #166   11/14/94
       #185   3/8/95

Documentation
       SMARTPath Service Marketing Reference Guide   (TS049)

TAB 65

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SMARTRing® Service OC3

CLEC Information Package

Service Description

Self-healing Multi-nodal Alternate Route Topology Ring Service (SMARTRing® service) OC3 is a dedicated, digital network with the capacity to transmit 3 DS3's or 84 DS1's between multiple customer-designated locations and Company Central Offices, where facilities can be made available as determined by the Company. This service is provided utilizing a dedicated network of SONET (Synchronous Optical Network) OC3 fiber optic transmission equipment nodes configured in a self-healing ring architecture. These nodes are connected by dedicated fiber routed through local, alternate central office, and interoffice facilities, which allow for transmission of DS3 or DS1 services simultaneously over both a primary and protect path between the customer designated locations and Telephone Company Central Offices, and is specifically designed to survive in the event of a single catastrophic failure within the network (such as a cable cut). The system will monitor the quality of signals received over both the primary and alternate paths, and will take the best of the two signals; therefore, if a failure is detected within the network which blocks the signal received over one path, the signal being transmitted over the alternate path will be accepted, thereby ensuring the integrity of the network.

The SMARTRing® Service guarantee provides a credit equal to the monthly billing for the ring should a single failure of the Company's equipment result in a service outage of the entire system, and the system does not automatically self-heal around the point of failure within two and one half (2.5) seconds. In order to qualify for this credit, the customer must report the service interruption to the Company, and the trouble must be found in the Company equipment, based on information provided by the network surveillance system associated with the service. No more than one credit will apply for any given rate element for any given month, regardless of the number of interruptions occurring during that month.

The major service elements of the SMARTRing® architecture are the nodes, channels, and interfaces..

NODES

Node types are: Central Office and Customer premises

Central office nodes are located in telephone Company central offices.

Customer Nodes are located in Customer designated premises other than

central offices.

A ring must consist of at least three nodes - one Central Office Node located in a Telephone Company Central Office, one Customer Node located at the customer premises, and one other type node of the customer's choosing (central office or customer premises). Additional nodes may be 'any combination of Central Office or Customer Premises Nodes at the customer's discretion. The customer will choose where his Node locations will be placed, and based on that information, as well as customer requested routing information, Network will determine how facilities will be routed to connect those Node locations

CHANNELS

Channel types are local, alternate central office, internodal, and interoffice.

Local channels provide the communication path between Customer nodes and the serving wire center for the node location.

Alternate central office channels provide the communication path between customer nodes and a central office other than the serving wire center for the node location (provides an increased level of diversity).

Interoffice channels provide the communication path between directly connected central offices on the SMARTRing® whether or not a node is located in the central office.

The Internodal Channel provides for the communications path between two directly connected Customer Nodes located in the same serving wire center area, or in the same office park/campus environment or contiguous property, located in contiguous serving wire center areas.

INTERFACES

SMARTRing® OC3 provides the capability to transmit up to 3 DS3 or 84 DS1 circuits. In order to enter and exit the ring interfaces must be ordered at the originating and terminating nodes.

Customers wishing to multiplex DS1 services in a Telephone Company Central office to connect to an OC3 SMARTRing® at the DS3 level must obtain a 28 DS1 Channel System and the appropriate number of DS1 Channel Interfaces in lieu of the DS3

Channel Interface.

Tariff Reference

SMARTRing® Service is available in all BellSouth service areas. The SMARTRing® Service Tariff is located in section B7 of each of the State Private Line Service Tariffs.

Installation Intervals

Normal Installation intervals   **NO**
Project Coordination Required   **YES**

Service Inquiry and Ordering Guidelines

Before a SMARTRing® Service Can be ordered a service inquiry for design must be submitted to determine availability and routing of fiber optic facilities. In addition, the information provided back to the initiator is required in order to develop an accurate price. This is because the channels are mileage sensitive in quarter mile increments.

To place an order for SMARTRing® Service the CLEC should forward the LSR and End User information forms to the CLEC Account Team. Both forms may be found in the Resale Ordering Guide.

SMARTRing® Service OC12

CLEC Information Package

Service Description

Self-healing Multi-nodal Alternate Route Topology Ring Service (SMARTRing® service) OC12 is a dedicated, digital network with the capacity to transmit 12 DS3s between multiple customer-designated locations and Company Central Offices, where facilities can be made available as determined by the Company. This service is provided utilizing a dedicated network of SONET (Synchronous Optical Network) OC12 fiber optic transmission equipment nodes configured in a self-healing ring architecture. These nodes are connected by dedicated fiber routed through local, alternate central office, and interoffice facilities, which allow for transmission of DS3 services simultaneously over both a primary and protect path between the customer designated locations and Telephone Company Central Offices, and is specifically designed to survive in the event of a single catastrophic failure within the network (such as a cable cut). The system will monitor the quality of DS3 signals received over both the primary and alternate paths, and will take the best of the two signals; therefore, if a failure is detected within the network which blocks the signal received over one path, the signal being transmitted over the alternate path will be accepted, thereby ensuring the integrity of the network.

The SMARTRing® Service guarantee provides a credit equal to the monthly billing for the ring should a single failure of the Company's equipment result in a service outage of the entire system, and the system does not automatically self-heal around the point of failure within two and one half (2.5) seconds. In order to qualify for this credit, the customer must report the service interruption to the Company, and the trouble must be found in the Company equipment, based on information provided by the network surveillance system associated with the service. No more than one credit will apply for any given rate element for any given month, regardless of the number of interruptions occurring during that month.

The major service elements of the SMARTRing® architecture are the nodes, channels, and interfaces.

NODES

Node types are: Central Office and Customer premises

Central office nodes are located in telephone Company central offices.

Customer Nodes are located in Customer designated premises other than central offices.

A ring must consist of at least three nodes - one Central Office Node located in a Telephone Company Central Office, one Customer Node located at the customer premises, and one other type node of the customer's choosing (central office or customer premises). Additional nodes may be any combination of Central Office or Customer Premises Nodes at the customer's discretion. The customer will choose where his Node locations will be placed, and based on that information, as well as customer requested routing information, Network will determine how facilities will be routed to connect those Node locations.

CHANNELS

Channel types are local, alternate central office, intermodal, and interoffice.

Local channels provide the communication path between Customer nodes and the serving wire center for the node location.

Alternate central office channels provide the communication path between customer nodes and a central office other than the serving wire center for the node location (provides an increased level of diversity).

Interoffice channels provide the communication path between directly connected central offices on the SMARTRing® whether or not a node is located in the central office.

The Intermodal Channel provides for the communications path between two directly connected Customer Nodes located in the same serving wire center area, or in the same office park/campus environment or contiguous property, located in contiguous serving wire center areas.

INTERFACES

SMARTRing® OC12 provides the capability to transmit up to 12 DS3 circuits. In order to enter and exit the ring, DS3 interfaces must be ordered at the originating and terminating nodes.

Customers wishing to connect DS1 services to an OC12 SMARTRing® in a Telephone Company Central office must obtain a 28 DS1 Channel System and the appropriate number of DS1 Channel Interfaces in lieu of the DS3 Channel Interface.

Tariff Reference

SMARTRing® Service is available in all BellSouth service areas. The SMARTRing® Service Tariff is located in section B7 of each of the State Private Line Service Tariffs.

Installation Intervals

Normal Installation intervals   **NO**
Project Coordination Required   **YES**

Service Inquiry and Ordering Guidelines

Before a SMARTRing® Service Can be ordered a service inquiry for design must be submitted to determine availability and routing of fiber optic facilities. In addition, the information provided back to the initiator is required in order to develop an accurate price. This is because the channels are mileage sensitive in quarter mile increments.

To place an order for SMARTRing® Service the CLEC should forward the LSR and End User information forms to the CLEC Account Team. Both forms may be found in the Resale Ordering Guide.

SMARTRING® SERVICE

General Description

Self-healing Multi-nodal Alternate Route Topology Ring (SMARTRing®) Service is designed to satisfy customer demands for increased reliability and flexibility currently not attainable with conventional high capacity digital service offerings. SMARTRing service satisfies customer demand by employing an innovative network design which utilizes fiber optic facilities in a ring topology and which uses special fiber optic terminating equipment to fully protect transmissions from catastrophic network failures. By virtue of the SMARTRing service technology, simultaneous DS3 signals will continually be monitored for service quality. The best of either of the two optical signals will always be delivered to the customer at designated locations on a tailored network.

Any interruption or failure detected within the system will automatically result in the ring switch accepting the remaining signal. This inherent survivability is a main feature with a credit allowance for interruptions that do not automatically self-heal around a point of failure on the ring within two and one half (2.5) seconds of the detected failure.

The SMARTRing service configuration utilizes a multi-nodal ring architecture which is specified jointly by BST and the customer. The minimum configuration provides dedicated DS3 (44.736 Mbps) digital services and must include at least three nodes. Service consists of the following rate elements:

- Customer Node
- Central Office Node
- Local Channel
- Interoffice Channel
- Internodal Channel, Same Office Park/Campus Environment in Contiguous Service Wire Ce   Areas

- Customer Channel Interface
- Central Office Channel Interface
- Alternate Central Office Channel
- Internodal Channel, Same Wire Center

SMARTRing Service is available in three sizes:

- OC3 = 3 DS3 or 84 DS1s
- OC12 = 12 DS3s
- OC24 = 24 DS3s

Potential Customers

- Interexchange Carriers
- Large End Users with current or future applications for DS3 or multiple DS1 service
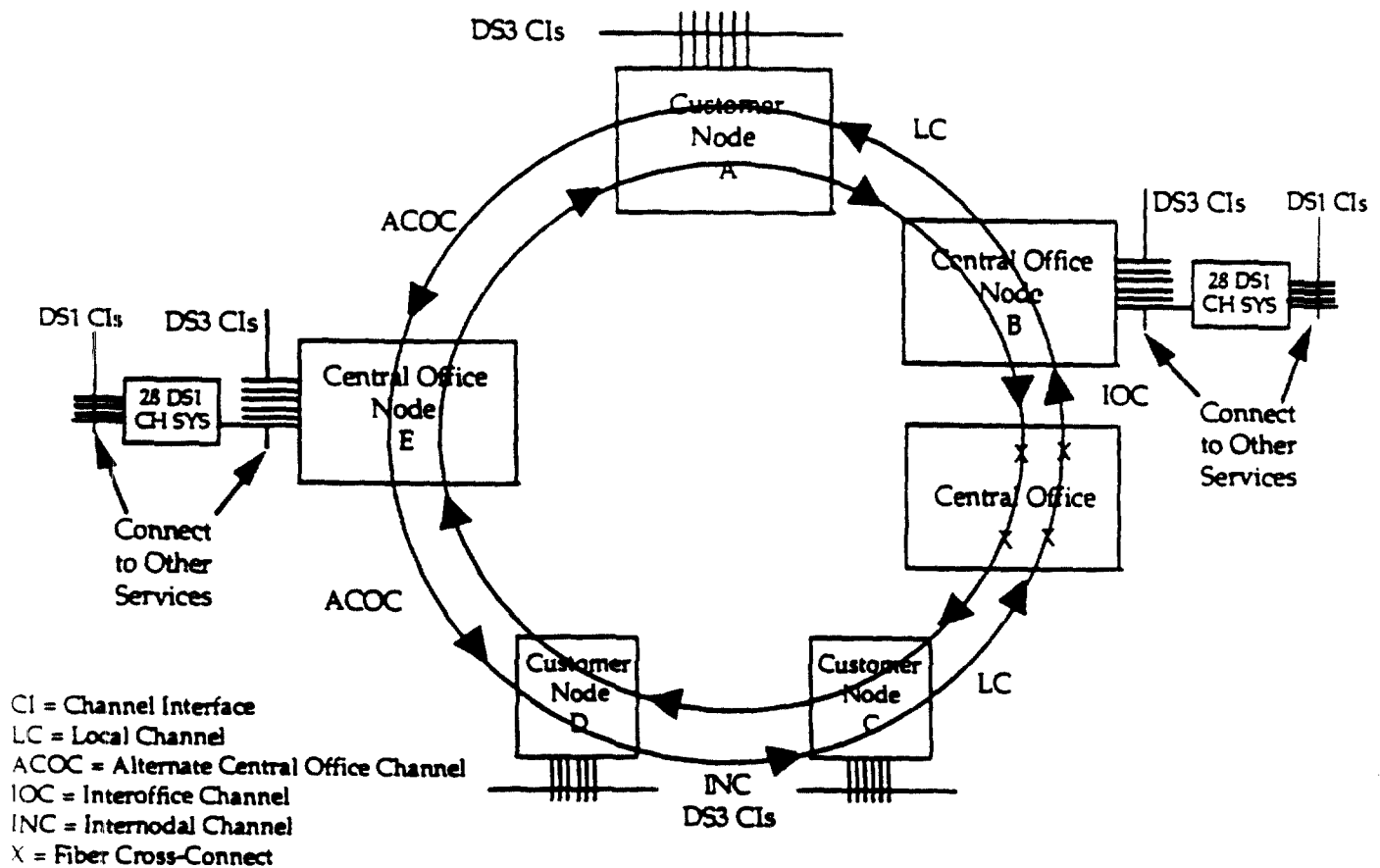
Strengths

- Highly reliable
- Channel Services Payment Plan
  - Plan A 24 - 48 months
  - Plan B 49 - 72 months
  - Plan C 73 - 96 months
- Link connectable with LightGate® Services
- Credit allowances for interruptions longer than 2.5 seconds

- Diversity
- Fiber-Based
- SONET Architecture
- Optical Interface
- Counter Rotating

Tariff Information

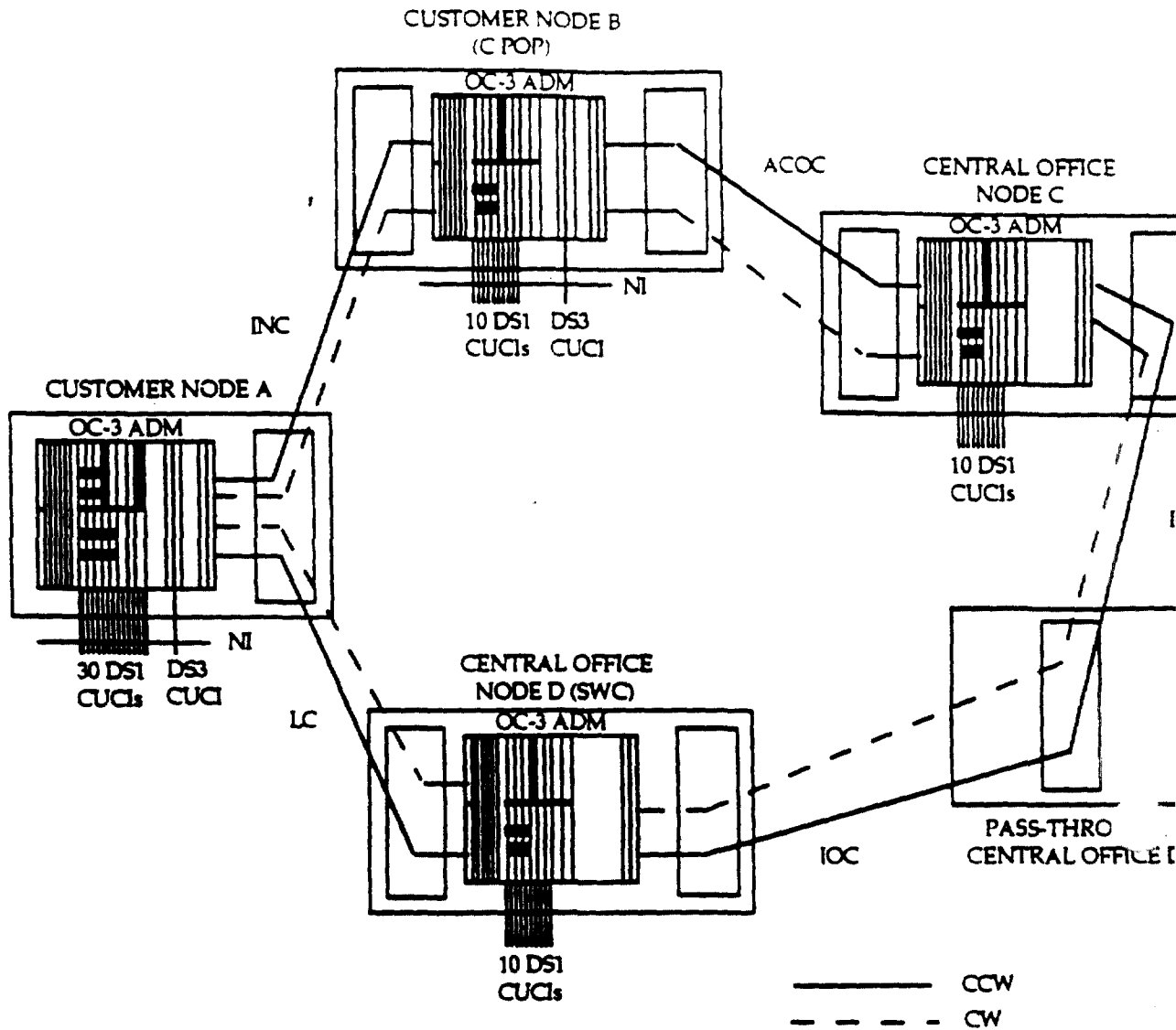SMARTRing service is found in Section 7.5.14 of the FCC No. 1

Application

This example shows SMARTRing service connecting two customer nodes and two Central Office nodes utilizing office diversity.

CI = Channel Interface
LC = Local Channel
ACOC = Alternate Central Office Channel
IOC = Interoffice Channel
INC = Internodal Channel
X = Fiber Cross-Connect

For this example, the following rate elements are applicable:

• 2 Local Channels
• 2 Alternate Central Office Channels
• 1 Interoffice Channel
• 1 Internodal Channel
• 3 Customer Nodes
• 18 DS3 Customer Channel Interfaces
• 2 Central Office Nodes
• 10 DS3 Central Office Channel Interfaces
• 2 28 DS1 Channels Systems
• 20 DS1 Channel Interfaces

The next application shows the SMARTRing service 3-DS3 capacity.

CUSTOMER NODE B
(C POP)

OC-3 ADM

ACOC

CENTRAL OFFICE
NODE C

OC-3 ADM

INC

NI

10 DS1   DS3
CUCIs   CUCI

CUSTOMER NODE A

OC-3 ADM

10 DS1
CUCIs

NI

30 DS1   DS3
CUCIs   CUCI

LC

CENTRAL OFFICE
NODE D (SWC)

OC-3 ADM

IOC

PASS-THRO
CENTRAL OFFICE [

10 DS1
CUCIs

—————— CCW

— — — — — CW

3 DS3 SMARTRING SERVICE EXAMPLE
(1 DS3 and DS1s activated, 26 DS1 capacity remaining)

For this example, the following rate elements are applicable:

- 2 Customer Nodes
- 2 Central Office Nodes
- 1 Local Channel
- 1 Internodal Channel
- 2 Interoffice Channels
- 2 DS3 Customer Channel Interfaces
- 40 DS1 Customer Channel Interfaces
- 20 DS1 Customer Office Interfaces

RESOURCES

Advertising Brochure
      Make Every Move Count (insert)   (BSSM 9408C/PIN 643940810)

AIM Bulletins
#55	5/30/92	'
#106	5/17/93	
#121	8/9/93	
#168	6/20/94	

BellSouth at INFORUM Solutions
      October 1992

Communique Bulletins
#38	7/21/92	#91	6/7/93
#46	8/24/92	#161	10/31/94
#53	10/1/92	#168	12/15/94

Documentation
Data Competitive Reference Guide	(TS041)
SMARTRing Marketing Reference Guide	(TS044)

TAB 66

SynchroNet® Service
CLEC Information Package

Service Description

SynchroNet service is a private line intraLATA nodal-based, digital data transmission service designed for customers who require highly reliable transmission of digitized information at moderate to high speeds over end-to-end digital facilities. SynchroNet is capable of simultaneous two-way transmission of synchronous digital signals at speeds of 2.4, 4.8, 9.6, 19.2, 56, and 64 Kbps. SynchroNet service circuits within a LATA are routed through a Node Central Office. The Node Central Office serves as the test, maintenance, and monitoring center and may provide multi-point capability. By using digital facilities and routing the circuits through Nodes, SynchroNet service is provisioned with an average performance objective of at least 99.5% error free seconds of transmission.

BellSouth's SynchroNet is similar to Digital Data Service (DDS) service which is often used by Customer Premises Equipment (CPE) manufacturers, Interexchange Carriers (IXCs), and customers as a generic name for DS0 level digital transmission service. SynchroNet is a registered Service Mark of BellSouth Corporation. Similar products offered by other companies carry different names.

SynchroNet service uses synchronous transmission. This means that signals are sent in a precisely controlled sequence at a fixed rate. This timing allows time division multiplexing to be used, therefore, transmitting data more efficiently. SynchroNet service is available as an intraLATA point-to-point, multi-point, or Secondary Channel Capability service. Multi-point service may not be available in all areas or at all speeds. SynchroNet service is not available at 64 Kbps with multi-point or Secondary Channel options.

Link capability allows the interconnection of SynchroNet to other network service offerings. SynchroNet may be linked with MegaLink Channel Service®, LightGate®, FlexServ®, and PulseLink® services.

Point-to-Point Service

Point-to-point service is a basic configuration for SynchroNet service. A full point-to-point circuit will consist of two digital local channels and any applicable digital interoffice channels. A local channel represents the facility between the Serving Wire Center Central Office to the customer premises. The interoffice channel represents the link between the Serving Wire Center Central Office to the Node central office designated for that circuit.

Multi-Point Service

Multi-point service is applied whenever three or more digital local channels, digital interoffice channels, and/or channel equivalents are bridged. Multi-point service is only available at certain Node Central Offices. 64 Kbps service can not be configured in a multi-point arrangement. A bridging arrangement is required whenever three or more points are bridged in a Node; a bridging charge applies per SynchroNet local or interoffice channel bridged. A connection may be any combination of local channels, interoffice channels, or channel equivalents.

In order to provide multi-point service, special Multi-point Junction Unit (MJU) equipment is required at the Node. The MJU provides the means for splitting data signals into two to four branches for transmission over different paths to remote stations. Each MJU is dedicated to the service of a particular customer (or customer site) and has a "master" leg and up to four "slave" legs. The MJU broadcasts any signals received from the master leg to all other legs and will take any incoming signals from any slave leg and transmit them to the master leg.

Secondary Channel Capability

SynchroNet service also supports Secondary Channel Capability (SCC) which is a companion transmission capability that is provided over the same physical facility as the primary channel but at a lower bit rate. Terminal equipment required to support Secondary Channel Capability must be provided by the customer. SCC is a pathway which allows customer provided equipment to provide diagnostics, network management, alarm functions or a second low speed data path.

SCC is available for point-to-point or multi-point service speeds of 2.4, 4.8, 9.6, 19.2 and 56 Kbps. SCC is not available on 64 Kbps. A customer requesting SCC must deploy SCC option on all local channels of a circuit. The provisioning of a Secondary Channel to an existing primary channel requires disruption of the primary channel. Maintenance of the primary channel may disrupt the Secondary Channel.

Service Components

Digital Local Channels (DLC)

Digital Local Channels connect customers premises to their serving Central Office. The local channel rate is a flat rated charge that includes the facilities from the connection (termination) in the serving wire center to the customers premises. A minimum of two DLCs or equivalents is required to provide service with the exception of Link Connectability. When the customer has two locations on the same premises, the customer is charged for two local channels from the customers premises to the Node, and two Node termination charges. The Node and the serving wire center Central Office can be one and the same.

The physical connection is a 4 wire nonloaded loop from the customer's premises to the serving wire center or to a Digital Loop Carrier system Remote Terminal (DLC RT) site. The maximum local loop distance limitations for SynchroNet service deployment are determined by the transmit levels and receiver sensitivities of the loop's terminating equipment in both the customer's premises and the serving wire center or DLC RT, and by spectrum management requirements. Distance limitations vary by speed, cable gauge, and other factors. The following examples are the approximate distance limitations for basic SynchroNet service (without SCC) in an all 26 gauge loop, with the maximum allowable loop length:

- 2.4 Kbps - 7.9 miles (approximately)
- 4.8 Kbps - 6.1 miles (approximately)
- 9.6 Kbps - 4.5 miles (approximately)
- 19.2 Kbps - 3.0 miles (approximately)
- 56.0 Kbps - 2.7 miles (approximately)
- 64.0 Kbps - 2.4 miles approximately)

Digital Interoffice Channel

The Digital Interoffice Channel is the path(s) between the serving wire center Central Office(s) and the Node (when the Node is not the serving wire center). A flat rate per interoffice channel and a rate per mile (applied in bands) is applicable for each interoffice channel. The distance used for interoffice mileage is the distance from the serving wire center central office to the Node Central Office. When the serving wire center is the Node, no interoffice channel fixed or mileage charges will apply.

Digital Terminating Equipment

Digital Terminating Equipment is customer provided equipment to terminate SynchroNet at the customer's, end-user's, or other common carrier's premises. Combination DSUs/CSUs are required.

SynchroNet service architecture begins at the customer's premises with the CPE. The customers Data Terminal Equipment (DTE) interfaces with the network through a Channel Service Unit (CSU) which provides network protection, signal recovery, and test access functionality. The typical customer configuration also includes a Data Service Unit (DSU) which provides timing recovery, zero code suppression, and the DTE interface. The functions of the CSU and DSU are often combined into a unit called a CSU/DSU. The customer must provide his or her own CSU/DSU equipment.

The customer is required to furnish CPE to terminate the SynchroNet circuit. This CPE must provide both CSU and DSU functions. The CSU terminates the customer's channel from the serving end office and performs remote channel loopback tests, amplification, and signal shaping. The DSU interfaces between the customer's terminal equipment and their CSU. The CPE equipment can be a CSU and a DSU or a CSU/DSU combination.

The CSU/DSU is connected to the customer's CPE via one of two interfaces: (1) An RS-232C interface is used with 2.4, 4.8, 9.6, or 19.2 Kbps service and (2) A CCITT V.35 interface is used with 56 and 64 Kbps service.

Network Interface Jacks

Network Interface Jacks are used when appropriate.

Node Office

All SynchroNet circuits must be routed through one Central Office designated by the Company as a SynchroNet Node. The Node Office equipment must mirror the equipment in the end office. An important advance in the Node Office is the use of subrate Digital Cross Connects (DCS). The use of the subrate DCS can replace the use of Sub-Rate Multiplexer Units (SRMUs), D-Banks, or separate multiplexing equipment in the Node, as subrate DCS will do the multiplexing, thereby eliminating the need for an exact mirror image. The Node Central Office is the test, maintenance, and monitoring center. The Company designates which central offices within a LATA are SynchroNet Nodes.

Node Termination

A Node Channel Termination charge applies per Digital Local Channel or equivalent provided and activated on MegaLink Channel Service or LightGate.

Interoffice Mileage (Airline Mileage Between Central Offices)

Airline distance between BellSouth Central Office are developed using the methodology and Vertical and Horizontal (V&H) Coordinates contained in the National Exchange Carrier Association (NECA) Tariff FCC No. 4. Fractional miles are to rounded up to the next full mile. The methodology for the calculation of mileage can be found in Section B3.3 of the Private Line Service Tariff.

Tariff References/Price List References

SynchroNet Service is only available for intraLATA service where appropriate digital facilities are available as determined by BellSouth. Multi-point and/or Secondary Channel Capability may not be available in all SynchroNet locations due to availability of equipment. SynchroNet service is tariffed in all BellSouth states. The SynchroNet Service tariff is located in Section B7.2 of the state-specific Private Line Service Tariff.

All rate elements have monthly recurring charges. Some rate elements have non-recurring charges. There are differences in applicable charges among states. There is a minimum service period for SynchroNet.

Contract Rates

The rates provided under contract plans will not be increased by BellSouth until the contract period expires; rate decreases are passed along to customers. There is, however, a termination liability if the service is terminated or disconnected prior to the end of the contract. The termination liability charge is determined by multiplying the contracted monthly rate times the number of months in the contract plan, less the contracted monthly rate times the number of months the service has been established.

Installation Intervals

Normal Installation Intervals	**No**
Project Coordination Required	**Yes**

Service Inquiry and Ordering Guidelines

To order SynchroNet® Service, the CLEC should submit the following forms to the BellSouth CLEC Account Team:

- Local Service Request (LSR)
- End-User Information Form

Both forms are available in the Resale Ordering Guidelines.

For all initial or subsequent order activity on SynchroNet® Service, contact your BellSouth CLEC Account Team.

TAB 67

TOUCHSTAR SERVICES
INFORMATION PACKAGE

TouchStar® Services
INFORMATION PACKAGE

1. Service Description

A. Basic Service Description - TouchStar® Services

B. Basic Service Capabilities - TouchStar services are optional network features, which are offered on a subscription basis or for some of the TouchStar features, on a per use basis. They are offered to meet residential customers' need for making their lif easier and having more control over their telephone services.

C. Feature Interaction and How Does the Service Work

Call Block - allows a customer to block up to six unwanted numbers (via a screen list) from calling their number. By simply pressing *60 from their Touch-tone phone, a customer can add an unwanted number to their screen list manually or automatically if the number was from the last incoming call. Callers who are on the list hear an announcement that their call has been blocked and not accepted by the called party.

Call Selector - allows a customer to screen incoming calls via a distinctive ring. By pressing *61 on a Touch-tone phone or 1161 on a rotary phone, a customer can add uj to six number to his screening list. If one of the numbers on the screening list calls, the customer will hear a distinctive ring (short, long, short) and will know it is someone on h screening list before answering the phone.

Call Tracing - enables a customer to initiate an automatic trace on the last call receiv by pressing *57 on a Touch-tone phone or 1157 from a rotary phone. The customer must then inform the Annoyance Call Center within the next business day of the date a time the call was traced. Although the customer will not receive the number of the call traced, the number will be passed to the Annoyance Call Center, who will then take appropriate action to resolve the annoying calls. Call Tracing is available on a subscription and per use basis.